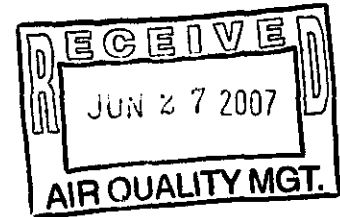
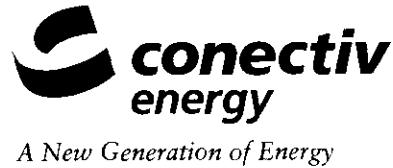


P. O. Box 6066  
Newark, DE 19714-6066

VIA HAND DELIVERY



June 27, 2007



Mr. Ali Mirzakhilili, Manager  
Air Quality Management Section  
Delaware Department of Natural Resources  
& Environmental Control  
156 South State Street  
Dover, DE 19901

**RE: Edge Moor Power Plant Environmental Compliance Plan  
Electric Generating Unit Multi-Pollutant Regulation  
Regulation No. 1146**

Dear Mr. Mirzakhilili:

In accordance with Section 8 of Regulation No. 1146 (Electric Generating Unit Multi-Pollutant Regulation) of Delaware's Regulations Governing the Control of Air Pollution, enclosed please find Conectiv Delmarva Generation's Environmental Compliance Plan for the Edge Moor Power Plant.

Please feel free to contact me at (302) 451-5319 should you or your associates have any questions regarding the enclosed.

Sincerely,

A handwritten signature in cursive script, appearing to read "Stuart Widom".

Stuart Widom  
Sr. Environmental Consultant  
Conectiv Delmarva Generation

Enclosure

CC: Mr. Bradley Klotz, DNREC, New Castle

# **Conectiv Delmarva Generation DNREC Multi-Pollutant Regulation Environmental Compliance Plan**

## **Identification of the subject unit(s)**

Conectiv Delmarva Generation, Inc. (CDG) owns and operates three steam electric generating units at the Edge Moor Power Plant, in Wilmington, Delaware. The Delaware Department of Natural Resources & Environmental Control's (DNREC's) Regulation Number 1146, Electric Generating Unit (EGU) Multi-Pollutant Regulation, identifies these three units as subject to its provisions while burning coal or residual oil. This compliance plan describes CDG's plan for compliance with the Regulation while burning these fuels<sup>1</sup>.

The three identified generating units are:

- Edge Moor Unit 3, a nominal 80 megawatt generating unit that primarily burns coal,
- Edge Moor Unit 4, a nominal 160 megawatt generating unit that primarily burns coal,
- Edge Moor Unit 5, a nominal 420 megawatt generating unit that primarily burns #6 residual oil.

## **Description of existing NO<sub>x</sub>, SO<sub>2</sub>, and/or mercury emissions control technologies installed on the unit, including their respective installation dates:**

**SO<sub>2</sub>** – By way of background, the three identified units at Edge Moor Power Plant burn low sulfur fuels to limit the formation of sulfur dioxide emissions to the atmosphere as well as to ensure that each unit holds sufficient SO<sub>2</sub> allowances commensurate with its annual SO<sub>2</sub> emissions. The applicable SO<sub>2</sub> regulations to which these generating units are subject are as follows:

- Regulation 1108 - Control of Sulfur Dioxide Emissions From Fuel Burning Equipment (Units 3, 4 and 5)
- Regulation 1136 – Acid Rain Program (Units 3, 4 and 5)

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<sup>1</sup> CDG's challenge to the Delaware Electric Generating Unit Multi-Pollutant Regulation No. 1146 currently is pending before the Delaware Environmental Appeals Board (EAB) and CDG's challenge to the Regulation in Delaware Superior Court has been stayed pending resolution of the EAB proceeding. CDG's submittal of this Compliance Plan is without prejudice to the pending challenges. CDG reserves all rights in connection with those challenges and reserves the right to withdraw or modify this compliance plan at a later date.

**Each Unit is permitted to burn either residual oil or coal that is less than or equal to 1 percent sulfur by weight in order to limit sulfur dioxide emissions.**

**NO<sub>x</sub> – CDG has installed various NO<sub>x</sub> control systems on the three units at the Edge Moor Power Plant. These systems are designed to limit the formation of NO<sub>x</sub> and ensure that each unit holds sufficient summer seasonal NO<sub>x</sub> emission allowances commensurate with its seasonal NO<sub>x</sub> emissions.**

**The applicable NO<sub>x</sub> regulations that these three units are subject to are:**

- **Regulation 1112 – Control of Nitrogen Oxides Emissions (Units 3, 4 and 5)**
- **Regulation 1136 – Acid Rain Program (Units 3 and 4)**
- **Regulation 1137 – NO<sub>x</sub> Budget Program (Units 3, 4 and 5)**
- **Regulation 1139 – Nitrogen Oxides Budget Trading Program (Units 3, 4 and 5)**

**The following NO<sub>x</sub> control technologies are presently utilized at Edge Moor:**

**Unit 3**

- **Low NO<sub>x</sub> coal burner technology, implemented in the 1990's.**
- **Selective Non Catalytic Reduction (SNCR) Technology (urea based) – used as necessary in the summer season, installed in the mid 1990's.**
- **Low NO<sub>x</sub> coal burner enhancements with separated Over Fire Air (OFA) systems, installed spring 2007.**

**Unit 4**

- **Low NO<sub>x</sub> burner technology (low NO<sub>x</sub> coal burners with close coupled over fire air ports) – installed mid 1990's.**

**Unit 5**

- **Low NO<sub>x</sub> burner technology (low NO<sub>x</sub> oil burners with overfire air staging capability) implemented in the late 1990's.**

**Hg - The two coal fired units at Edge Moor (Units 3 and 4) do not have existing control systems that specifically target mercury removal. However, atmospheric mercury emissions are limited as a result of a number of operational and engineering design factors. Data suggest that elemental mercury in the flue gas is oxidized, and that a portion of the oxidized mercury is adsorbed on the fly ash and subsequently collected by the existing electrostatic precipitators.**

**Identification of the requirements of this regulation applicable to the unit:**

**SO<sub>2</sub>**

- According to Section 5.0 of Regulation 1146, SO<sub>2</sub> emissions from Units 3 and 4 when burning coal must meet short term emission limits of:  
0.37 # SO<sub>2</sub>/mmbtu by May 1, 2009 (24 hour rolling average) and,  
0.26 # SO<sub>2</sub>/mmbtu by January 1, 2012 (24 hour rolling average).
- In addition, the following annual SO<sub>2</sub> mass emission limits will apply beginning January 1, 2009:

Unit 3	1391 tons
Unit 4	2410 tons
Unit 5	2427 tons

**NO<sub>x</sub>**

- NO<sub>x</sub> emissions from Units 3, 4 and 5 when burning coal or residual oil, as required by Section 4.0 of Regulation 1146 must meet short term emission limits of  
0.15 # NO<sub>x</sub>/mmbtu by May 1, 2009 (24 hour rolling average) and,  
0.125 # NO<sub>x</sub>/mmbtu by January 1, 2012 (24 hour rolling average).
- In addition, the following annual NO<sub>x</sub> mass emission limits will apply beginning January 1, 2009:

Unit 3	773 tons
Unit 4	1339 tons
Unit 5	1348 tons

**Hg**

- Hg emissions from Units 3 and 4, as required by Section 6.0 of Regulation 1146 must meet, on a quarterly averaging basis, by January 1, 2009 either:
  - An emission rate of 1.0 lb of Hg / TBtu heat input or,
  - The capture and control a minimum 80% of baseline inlet mercury emissions
- By January 1, 2013, Hg emissions from Units 3 and 4 must meet, on a quarterly averaging basis, either:
  - An emission rate of 0.6 lb of Hg / TBtu heat input or,
  - The capture and control a minimum 90% of baseline inlet mercury emissions

- In addition, the following annual Hg mass emission limits will apply beginning January 1, 2009:

	Hg Mass Emissions 2009-2012	Hg Mass Emissions 2013 and Beyond
Unit 3	266 ounces	106 ounces
Unit 4	462 ounces	183 ounces

Specific monitoring, recordkeeping and reporting provisions also apply.

*Description of the plan or methodology that will be utilized to demonstrate compliance with this regulation:*

As discussed below, CDG plans to employ several additional control technologies to further reduce SO<sub>2</sub>, NO<sub>x</sub> and Hg emissions from the affected units. These technologies include a sodium-based, Dry Sorbent Injection (DSI) system to reduce SO<sub>2</sub> emissions from Units 3 and 4, the use of lower sulfur residual fuel oil to lower emissions of SO<sub>2</sub> for Unit 5, and the use of various “layered” NO<sub>x</sub> control technologies on Units 3, 4 and 5. Such NO<sub>x</sub> control technologies may include optimizations and enhancements to existing pre-combustion and post-combustion control NO<sub>x</sub> technologies already in service. In addition, an Activated Carbon Injection (ACI) system will be used as needed to reduce mercury emissions from Units 3 and 4.

To demonstrate SO<sub>2</sub> and NO<sub>x</sub> compliance CDG will utilize continuous emissions monitors that are presently being used to comply with the provisions of the federal and state Acid Rain requirements, and state NO<sub>x</sub> Budget requirements.

For Hg emissions, CDG presently plans to meet the standard’s emission limits (in lieu of the baseline percentage reductions) and will demonstrate compliance using mercury continuous emissions monitors.

**Identification of emission control technology that will be used to comply with the applicable emissions limitations of this regulation:**

**Description of the control technology and its applicability to the subject unit:**

**SO<sub>2</sub>** Units 3 and 4 – CDG proposes to utilize a sodium-based, Dry Sorbent Injection (DSI) technology to reduce atmospheric emissions of SO<sub>2</sub> that are generated in the combustion process in anticipation of meeting the short term emission limits associated with both phases of the Regulation.

Unit 5 – CDG proposes to receive a lower sulfur content (less than or equal to 0.5% S) number 6 residual fuel oil to reduce atmospheric emissions of SO<sub>2</sub> that are generated in the combustion process.

**NOx** Units 3, 4 and 5 – CDG proposes the continued use of various existing NOx technologies and the addition of new technologies through a “layered approach” including optimization improvements in order to further reduce NOx emissions from these units. When fully instituted, NOx controls will include use of the following existing/proposed technologies:

- Low NOx burners
- Overfire Air (OFA) systems
- Selective Non Catalytic Reduction (SNCR) systems

Additional NOx enhancements will be employed, as necessary, in order to meet the applicable NOx emissions standards.

**Hg** Units 3 and 4 – CDG proposes to implement an Activated Carbon Injection (ACI) system to control Hg emissions, as necessary, to meet the Hg emission standards.

At this time CDG is still refining and testing the control technologies described in this Plan. CDG will submit construction permit applications to DNREC and will provide additional information as necessary.

**Design control effectiveness or design emission rate following installation of the emission control technology on the subject unit:**

The proposed SO<sub>2</sub>, NO<sub>x</sub> and Hg control systems are being designed, engineered and installed with the goal of meeting the Regulation's emission limits of:

SO <sub>2</sub> – Units 3 and 4	0.37 #/mmbtu (Phase I) 0.26 #/mmbtu (Phase II)
NO <sub>x</sub> – Units 3, 4 and 5	0.15 #/mmbtu (Phase I) 0.125 #/mmbtu (Phase II)
Hg – Units 3 and 4	1 #/TBtu (Phase I) 0.6 #/TBtu (Phase II)

Actual performance and use of each control system will be determined following implementation, commissioning and optimization.

**Estimated dates for start of construction, start-up of emissions control technology, and project completion:**

Spring 2007 – Implementation, enhancement and associated optimization of LNB and OFA on Unit 3 (presently underway).

Fall 2007 – Implementation, enhancement, and associated optimization of LNB and OFA on Unit 4.

Fall 2008 – Implementation of the DSI technology on Units 3 and 4, new SNCR technology on Units 4 and 5, and ACI technology on Units 3 and 4.

Specific details on the systems' operation will be provided to the Department following detailed design and control technology equipment selection procurement, as part of the Company's Construction Permit Application process for the proposed equipment.

**Description of emission monitoring methodology for demonstrating compliance with the emissions limitations of the regulation, including estimated installation dates, start-up dates, and testing dates:**

SO<sub>2</sub> and NO<sub>x</sub> emissions will continue to be monitored by the continuous emissions monitoring systems that are presently in use on Units 3, 4 and 5. Standard quality

assurance and quality control procedures associated with the use of 40 CFR Part 75 for Acid Rain affected electric generating unit facilities will be used.

With respect to Hg emissions, CDG plans to procure mercury emissions monitors to continuously monitor and record and report emissions of this constituent. The Company presently plans to solicit requests for proposals from viable vendors this summer in order to meet the Regulation's January 1, 2009 compliance deadline.

Identification of planned changes to administrative or operating procedures or practices intended to achieve compliance with applicable emissions limitations:

Unit operating procedures for start up and shutdown will be modified to incorporate the SNCR, ACI and DSI systems.

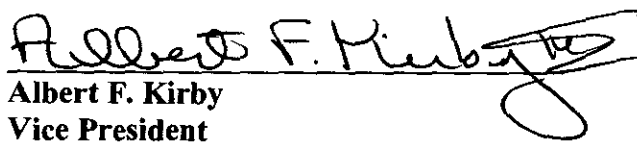
Any other relevant information requested by the Department:

N/A

**Certification Statement:**

"I am authorized to make this submission on behalf of the owners and operators of the affected facility or affected units for which this submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge true, accurate and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."

**Signature of the Designated Representative:**

  
Albert F. Kirby  
Vice President  
Conectiv Delmarva Generation, Inc.

6/27/07  
Date